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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/481,685

Applicant(s)

Galloway et al.

Examiner

Christos S. Kyriakou

Group Art Unit

1315

☒ Responsive to communication(s) filed on Aug 28, 1996☒ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims☒ Claim(s) 1-21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.☒ Claim(s) 1-21 is/are rejected.☐ Claim(s) _____ is/are objected to.☐ Claims _____ are subject to restriction or election requirement.**Application Papers**☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on _____ is/are objected to by the Examiner.☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.☐ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been☐ received.☐ received in Application No. (Series Code/Serial Number) _____.☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☐ Notice of References Cited, PTO-892☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 8☐ Interview Summary, PTO-413☐ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Part III DETAILED ACTION

The following rejections are withdrawn.

Claim Rejections - 35 USC § 112

1. The rejection of claims 1-21 under 35 U.S.C. § 112 second paragraph made in para. no. 1 of paper no. 4 is withdrawn in view of Applicant's argument on page 7 of paper no. 5.
2. The rejection of claims 4-10, 15, and 20 under 35 U.S.C. § 112 second paragraph made in para. no. 2 of paper no. 4 is withdrawn in view of Applicant's amendment to the claims.
3. The rejection of claim 20 under 35 U.S.C. § 112 second paragraph made in para. no. 3 of paper no. 4 is withdrawn in view of Applicant's amendment to claim 20.

Claim Rejections - 35 USC § 103

4. The rejection of claims 17-18 and 19 under 35 U.S.C. § 103 as being unpatentable over Newsome (US 4,457, 960) in view of Van der Sanden (Tappi Journal) and Tse et al. (US 4,894,107) made in para no. 8 of paper no. 4 is withdrawn in view of Applicant's amendment to the claims.
5. The rejection of claims 20-21 under 35 U.S.C. § 103 as being unpatentable over Newsome in view of Van der Sanden and Tse et al. as discussed above and further in view of Rosenthal et al. (US 4,254,169) made in para no. 9 of paper no. 4 is withdrawn in view of Applicant's amendment to the claims.

The following rejections are still valid and are not withdrawn.

Claim Rejections - 35 USC § 102

6. The rejection of claims 1-2, 11-13, 16-18, and 21 under 35 U.S.C. § 102(e) as being anticipated by Mumpower et al. (US 5,374,459) made in para no. 5 of paper no. 4 is repeated.

The declaration under 37 C.F.R. § 1.131 filed August 22, 1996 is insufficient to overcome the rejection of claims 1-2, 11-13, 16-18, and 21 based upon Mumpower et al. under U.S.C. § 102(e) as set forth in the last Office action because the declaration is deficient in that the declaration is not signed by all the joint inventors or the declaration does not contain a statement that the signing inventors invented the subject matter of the claims under rejection, claims 1-2, 11-13, 16-18, and 21. See MPEP § 715.04.

Claim Rejections - 35 USC § 103

7. The rejection of claims 1-21 under 35 U.S.C. § 103 as being unpatentable over Georgelos (US 5,397,603) in view of Newsome (US 4,457,960) made in para no. 7 of paper no. 4 is repeated.

The declaration under 37 C.F.R. § 1.131 filed August 22, 1996 is insufficient to overcome the rejection of claims 1-21 based upon Georgelos in view of Newsome under U.S.C. § 103 as set forth in the last Office action because the declaration is deficient in that the declaration is not signed by all the joint

inventors of the claims under rejection, claims 1-21.

Specifically, inventors Galloway and Zheng have not signed the declaration and must be inventors of some of the subject matter of the only claims in the application, claims 1-21.

8. The rejection of claims 1-2, 4-12, and 14-16 under 35 U.S.C. § 103 as being unpatentable over Newsome (US 4,457, 960) in view of Van der Sanden (Tappi Journal) and Tse et al. (US 4,894,107) made in para no. 8 of paper no. 4 is repeated. The above rejected claims do not necessarily contain an ethylene alpha-olefin copolymer having the recited molecular weight distribution and melt flow ratio. Claim 1 recites that the second layer comprises an ethylene alpha-olefin copolymer with the above recited properties "or blends of from about 1% to 99% of and ethylene alpha-olefin copolymer formed by a polymerization reaction with a single cite catalyst" (emphasis added) without limiting the molecular weight distribution or the melt flow ratio of ethylene alpha-olefin copolymer of the blend. Thus, the layer does not necessarily contain an ethylene alpha-olefin copolymer with the recited molecular weight distribution and the melt flow ratio.

Similarly, claim 12 recites the molecular weigh distribution and the melt flow ratio of an ethylene alpha-olefin copolymer but does not necessarily require both that the ethylene alpha-olefin copolymer(s) of the blend and the 100% composition have the recited properties.

9. The rejection of claims 1, 3, and 13 under 35 U.S.C. § 103 as being unpatentable over Newsome in view of Van der Sanden and Tse et al. as discussed above and further in view of Rosenthal et al. (US 4,254,169) made in para no. 9 of paper no. 4 is repeated for the reasons stated in the above rejection in para. no. 8.

10. Again, it would have been an obvious matter of design choice to change the thicknesses of the layers since such modifications would have merely involved a mere change in the size of components. A change in size is generally recognized as being within the ordinary skill in art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

The following new rejections are necessitated by the amendments of the application by Applicant.

Claim Rejections - 35 USC § 112

11. Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-21 are indefinite because claims 1, 12, and 17 recite a blends of 1-99 % of ethylene alpha-olefin copolymer and 99-1 % ethylene vinyl acetate. It is not clear and definite whether the percentage of the components is based on weight, volume, or moles.

Additionally, it is not clear or definite whether the ethylene vinyl acetate component of the blends is a polymer of ethylene vinyl acetate or a copolymer of vinyl acetate and the previously recited ethylene and alpha-olefin.

12. Claims 12-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 12-16 are indefinite because it is not clear and definite whether the first mentioned ethylene alpha-olefin copolymer of 100% of the layer has the molecular weight distribution and melt flow ratio recited, the second ethylene alpha-olefin copolymer of the blend has the molecular weight distribution and melt flow ratio recited, both do.

Claim Rejections - 35 USC § 103

13. Claims 1-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Newsome (US 4,457, 960) in view of Lai et al. (US 5,272,236), Tse et al. (US 4,894,107), and Rosenthal et al. (US 4,254,169). Newsome discloses a multilayer film for packages comprising a barrier layer of ethylene vinyl alcohol (col. 3, lines 25-28) between layers of LLDPE/EVA blends (col. 2, lines 42-50). Newsome discloses that additional adhesive LLDPE/EVA layers may be used between the barrier layer and the outer LLDPE/EVA layers (fig. 3 and col. 7, lines 35-38). Newsome fails to disclose a single site catalyzed ethylene alpha-olefin

copolymer as the LLDPE of the outer layer, irradiation of the film, and EVA as a gas barrier layer.

Lai teaches that single site catalyzed LDPEs with molecular weight distributions of 1.5-2.5 and melt flow ratios of greater than 7 (col. 6, lines 14-18) have improved processability (Abstract) and physical properties, strength, heat seal, and optical properties, than conventional LDPEs (col. 5, line 52+). Tse teaches the irradiation of polymers, particularly LLDPE/EVA blends, to induce cross-linking and thus increasing the hot strength and seal properties of films made from these polymers (col. 3, lines 55-61). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use single site catalyzed LLDPEs as taught by Lai in the package disclosed by Newsome in order to improve processability and physical properties as taught by Lai and to also irradiate the films of the package in order to further increase hot strength and seal properties.

Rosenthal discloses ethylene vinyl acetate copolymer as a gas barrier layer (col. 2, lines 58-59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute ethylene vinyl acetate copolymer for ethylene vinyl alcohol in order to function as the gas barrier layer.

14. Claims 1-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Newsome (US 4,457, 960) in view of Dow Affinity

Brochure, Tse et al. (US 4,894,107), and Rosenthal et al. (US 4,254,169). Newsome discloses a multilayer film for packages comprising a barrier layer of ethylene vinyl alcohol (col. 3, lines 25-28) between layers of LLDPE/EVA blends (col. 2, lines 42-50). Newsome discloses that additional adhesive LLDPE/EVA layers may be used between the barrier layer and the outer LLDPE/EVA layers (fig. 3 and col. 7, lines 35-38). Newsome fails to disclose a single site catalyzed ethylene alpha-olefin copolymer as the LLDPE of the outer layer, irradiation of the film, and EVA as a gas barrier layer.

Dow teaches a single site catalyzed ethylene alpha-olefin, PL 1840 (4th from last page) and is the preferred ethylene alpha-olefin disclosed by Applicant on page 6 of the specification, which inherently has the molecular weight distributions and melt flow ratios claimed as having improved processability and physical properties than conventional LLDPEs. Tse teaches the irradiation of polymers, particularly LLDPE/EVA blends, to induce cross-linking and thus increasing the hot strength and seal properties of films made from these polymers (col. 3, lines 55-61). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the single site catalyzed ethylene alpha-olefin, PL 1840, as taught by Dow instead of the conventional LLDPE disclosed by Newsome in order to improve processability and physical properties as taught by

Lai and to also irradiate the films of the package in order to further increase hot strength and seal properties.

Rosenthal discloses ethylene vinyl acetate copolymer as a gas barrier layer (col. 2, lines 58-59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute ethylene vinyl acetate copolymer for ethylene vinyl alcohol in order to function as the gas barrier layer.

Response to 1.132 Affidavit

15. The Affidavit does not overcome the § 102(e) rejection over Mumpower, the § 103 rejections over Georgelos (US 5,397,603) in view of Newsome, and the two new § 103 rejections because they teach ethylene alpha-olefin copolymers of the blend of the molecular weight distribution and melt flow ratios recited. The affidavit does not overcome the remaining § 103 rejections made in paragraph numbers 8 and 9 above because the rejected claims do not necessarily recite (see reasoning and explanation in above paragraphs. a ethylene alpha-olefin copolymer of the blend of the molecular weight distribution and melt flow ratios with the improved properties demonstrated.

Conclusion

16. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christos S. Kyriakou whose telephone number is (703)308-7548.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-2351. The fax phone number for this Group is (703)305-5436.

csk
November 25, 1996


ELLIS ROBINSON
SUPERVISORY PATENT EXAMINER
GROUP 1300